

Technical Information

Nitrofurantoin Broth Base

Product Code: DM 1857

Application: - Nitrofurantoin Broth Base is recommended for the selective enrichment and isolation of *Pseudomonas* species.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	7.500
Casein enzymic hydrolysate	7.500
Sodium chloride	5.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Selective and differentiating media consisting of simple chemical components have been developed, both in solid and in liquid form, for culturing *Pseudomonas aeruginosa*. Nitrofurantoin, in the form of Macrochantin, has been shown to be active against most strains of *Escherichia coli*, *Staphylococcus aureus* and *Enterococcus faecalis* both in vitro and in clinical infections. Nitrofurantoin is not active against most strains of *Proteus* species or *Serratia* species. It has no activity against *Pseudomonas* species (1). Therefore nitrofurantoin incorporated in medium can be used as a selective medium for culturing of *Pseudomonas* species.

Casein enzymic hydrolysate and peptic digest of animal tissue supply the essential nutrients especially nitrogenous sources. Nitrofurantoin, 1-[(5-nitrofururylidene) amino] hydantoin, is a synthetic antibacterial agent which is effective against most common gram-negative and gram-positive urinary tract pathogenic bacteria (2).

Methodology

Suspend 20 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to room temperature and aseptically add 50 ml sterile 0.2% nitrofurantoin solution. Shake well and dispense in tubes or flasks as desired. Sterile nitrofurantoin solution (0.2%) is prepared by dissolving 1 gm Nitrofurantoin in 500 ml polyethylene glycol 300.

Note: Autosterilization takes place in 3 months. This solution can be stored for 6 months or longer.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity

With added nitrofurantoin : Fluorescent yellow coloured clear solution without any precipitate

Reaction

Reaction of 2.0% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH Range

7.00-7.40

Cultural Response

DM 1857: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.



Dehydrated Culture Media
Bases / Media Supplements

Organism	Inoculum (CFU)	Growth
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	good-luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	$\geq 10^3$	inhibited

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Clinical and Laboratory Standards Institute, 2006, Performance standards for antimicrobial susceptibility testing. Approved standard M100-S15, Vol. 25, CLSI, Villanova, Pa.
2. Chamberlain R. E., 1976, Chemotherapeutic properties of prominent nitrofurans, J. Antimicrob. Chemother. 2:325336

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
- Central Drug House Pvt. Ltd. reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents. Do not use the products if it fails to meet specification for identity and performance parameters.

